

Please Type a plus sign (+) inside this box

+

<b>DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)</b>		Att r n y D cket Number	BP2917
		First Named Inventor	G ttfrried Ungerboeck
<b>COMPLETE IF KNOWN</b>			
<input checked="" type="checkbox"/> Declaration Submitted with Initial Filing <input type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16(e)) required)	OR	Application Number	
	Filing Date		
	Group Art Unit		
	Examiner Name		

**As a below named Inventor, I hereby declare that:**

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

### **BIT MAPPING FOR VARIABLE-SIZE HIGHER-ORDER DIGITAL MODULATIONS**

the specification of which

- is attached hereto  
OR

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 3659(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCST international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	Certified Copy Attached? NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

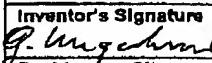
Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto

### **DECLARATION – Utility or Design Patent Application**

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application

U.S. Parent Application or PCT Parent Number		Parent Filing Date (MM/DD/YYYY)		Parent Patent Number (if applicable)		
<input type="checkbox"/> Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto						
Direct all correspondence to: <input checked="" type="checkbox"/> Customer Number <b>34399</b> OR <input type="checkbox"/> Correspondence address below						
Name	Bruce E. Garlick					
Address	Garlick, Harrison & Markison, LLP					
Address	P.O. Box 180727					
City	Austin	State	TX	Zip	78716-0727	
Country	US	Telephone	(512) 264-8816	Fax	(512) 264-8726	
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1501 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.						
Name of Sole or First Inventor:	<input type="checkbox"/> A petition has been filed for this unsigned inventor					
Given Name (first and middle if any) <b>Gottfried</b>			Family Name or Surname <b>Ungerboeck</b>			
Inventor's Signature 					Date <i>Jan 21, 2004</i>	
Residence: City	Langnau	State		Country	Switzerland	
Post Office Address	Eichstrasse 4					
Post Office Address				Citizenship	Austria	
City	Langnau	State	Zip	CH-8125	Country	Switzerland

**POWER OF ATTORNEY FROM ASSIGNEE**

Broadcom Corporation, a California corporation having a principal place of business at 16215 Alton Parkway, Irvine, California 92618-7013, is assignee of the entire right, title and interest for the United States of America (as defined in 35 U.S.C. § 100), by reason of an Assignment to the Assignee executed on \_\_\_\_\_ of an invention known as BIT MAPPING FOR VARIABLE-SIZE HIGHER-ORDER DIGITAL MODULATIONS (Attorney Docket No. BP2917), which is disclosed and claimed in a patent application of the same title by the inventor(s) Gottfried Ungerboeck (said application filed on \_\_\_\_\_ at the U.S. Patent and Trademark Office, having Application Number \_\_\_\_\_).

The Assignee hereby appoints the U.S. attorneys associated with Garlick, Harrison & Markison, LLP to prosecute this application and any continuation, divisional, continuation-in-part, or reissue application thereof, and to transact all business in the U.S. Patent and Trademark Office connected therewith, such attorneys currently being: Bruce E. Garlick, Registration No. 36,520, James A. Harrison, Registration No. 40,401, Timothy W. Markison, Registration No. 33,534, Shayne X. Short, Registration No. 45,105, William W. Kidd 31,772, and Robert McLauchlan 44,924. The Assignee hereby grants said attorneys the power to insert on this Power of Attorney any further identification that may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

Send correspondence to:

GARLICK, HARRISON & MARKISON, LLP  
P.O. Box 160727  
AUSTIN, TEXAS 78716-0727.

Direct phone calls to Bruce Garlick at (512) 264-8816.

FOR: Broadcom Corporation  
SIGNATURE: Dee Henderson  
BY: Dee Henderson  
TITLE: Manager, Intellectual Property Portfolio  
DATE: 1/22/09

**Certificate Under 37 C.F.R. § 3.73(b)**

Applicants: **Gottfried Ungerboeck**

Application No.: Unknown

Filing Date: \_\_\_\_\_, 2004

Entitled: **BIT MAPPING FOR VARIABLE-SIZE HIGHER-ORDER DIGITAL MODULATIONS**

**Broadcom Corporation**  
(Name of Assignee)

**a, California Corporation**  
(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1.  the assignee of the entire right, title, and interest, or
2.  an assignee of an undivided part interest

in the patent application/patent identified above by virtue of either:

A.  An Assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

OR

B.  A chain of title from the inventor(s) of the patent application/patent identified above to the current assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
2. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

Additional documents in the chain of title are listed on a supplemental sheet.

Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the PTO. See MPEP 302-302.8]

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

Date: 1/24/04

Name: Dee Henderson  
Manager, Intellectual Property Portfolio

Title:

Signature: 

**ASSIGNMENT for Patent Application**

In consideration of the sum of One Dollar (\$1.00) or equivalent and other good and valuable consideration paid to each of the undersigned inventor(s) Gottfried Ungerboeck, the undersigned inventor(s) hereby sell(s) and assign(s) to Broadcom Corporation, a California corporation having a principal place of business at 16215 Alton Parkway, Irvine, California 92618-7013 (the Assignee) his/her entire right, title and interest, including the right to sue for past infringement and to collect for all past, present and future damages:

*check applicable box (es)*  for the United States of America (as defined in 35 U.S.C. § 100 et seq.),  
 and throughout the world,

(a) in the invention(s) known as **BIT MAPPING FOR VARIABLE-SIZE HIGHER-ORDER DIGITAL MODULATIONS** (BP2917) for which application(s) for patent in the United States of America has (have) been executed by the undersigned on Jan. 21, 2004 in any and all applications thereon, in any and all Letters Patent(s) therefor, and

(b) in any and all applications that claim the benefit of the patent application listed above in part (a), including continuing applications, reissues, extensions, renewals and reexaminations of the patent application or Letters Patent therefor listed above in part (a), to the full extent of the term or terms for which Letters Patents issue, and

(c) in any and all inventions described in the patent application listed above in part (a), and in any and all forms of intellectual and industrial property protection derivable from such patent application, and that are derivable from any and all continuing applications, reissues, extensions, renewals and reexaminations of such patent application, including, without limitation, patents, applications, utility models, inventor's certificates, and designs together with the right to file applications therefor; and including the right to claim the same priority rights from any previously filed applications under the International Agreement for the Protection of Industrial Property, or any other international agreement, or the domestic laws of the country in which any such application is filed, as may be applicable;

all such rights, title and interest to be held and enjoyed by the above-named Assignee, its successors, legal representatives and assigns to the same extent as all such rights, title and interest would have been held and enjoyed by the Assignor had this assignment and sale not been made.

The undersigned inventor(s) agree(s) to execute all papers necessary in connection with the application(s) and any continuing (continuation, divisional, or continuation-in-part), reissue, reexamination or corresponding application(s) thereof and also to execute separate assignments in connection with such application(s) as the Assignee may deem necessary or expedient.

The undersigned inventor(s) agree(s) to execute all papers necessary in connection with any interference or patent enforcement action (judicial or otherwise) related to the application(s) or any continuing (continuation, divisional, or continuation-in-part), reissue or reexamination application(s) thereof and to cooperate with the Assignee

**Attorney Docket No. BP2917**

in every way possible in obtaining evidence and going forward with such interference or patent enforcement action.

The undersigned inventor(s) hereby represent(s) that he/she has full right to convey the entire interest herein assigned, and that he/she has not executed, and will not execute, any agreement in conflict therewith.

The undersigned inventor(s) hereby grant(s): Bruce E. Garlick, Registration No. 36,520, James A. Harrison, Registration No. 40,401, Timothy W. Markison, Registration No. 33,534, Shayne X. Short, Registration No. 45,105, William W. Kidd 31,772, and Robert McLaughlan 44,924; all of Garlick, Harrison & Markison, LLP, P.O. Box 160727, Austin, Texas 78716-0727, power to insert in this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN WITNESS WHEREOF, executed by the undersigned inventor(s) on the date opposite his/her name.

Gottfried Ungerboeck: Gottfried Ungerboeck Date: Jan 21, 2004